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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/727,863	12/04/2003	Kevin Michael Fallis	2601/SPRI.110508	7895
32423 7590 01/16/2007 SPRINT COMMUNICATIONS COMPANY L.P. 6391 SPRINT PARKWAY KSOPHT0101-Z2100 OVERLAND PARK, KS 66251-2100			EXAMINER NGUYEN, MERILYN P	
			ART UNIT 2163	PAPER NUMBER

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/727,863

Applicant(s)

FALLIS ET AL.

Examiner

Merilyn P. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Detailed Action</u> . |

DETAILED ACTION

1. In response to the communication dated 10/24/2006, claims 1-23 are pending in this action.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 10-23 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As set forth in MPEP 21 06(II)A:

Identify and understand Any Practical Application Asserted for the Invention The claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96),¹ In re Ziegler, 992, F.2d 1 197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)34. Accordingly, a complete disclosure should contain some indication of the practical application for the claimed invention, i.e., why the applicant believes the claimed invention is useful.

Apart from the utility requirement of 35 U.S.C. 101, usefulness under the patent eligibility standard requires significant functionality to be present to satisfy the useful result

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aspect of the practical application requirement. See *Arrhythmia*, 958 F.2d at 1057, 22 USPQ2d at 1036. Merely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting. For example, a claim directed to a word processing file stored on a disk may satisfy the utility requirement of 35 U.S.C. 101 since the information stored may have some "real world" value. However, the mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a "useful, concrete and tangible" result to have a practical application.

The claimed invention is subject to the test of *State Street*, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. Specifically *State Street* sets forth that the claimed invention must produce a "useful, concrete and tangible result". The Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility states in section IV C. 2 b. (2) (on page 21 in the PDF format):

The tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing. However, the tangible requirement does require that the claim must recite more than a §101 judicial exception, in that the process claim must set forth a practical application of that §101 judicial exception to produce a real-world result. *Benson*, 409 U.S. at 71-72, 175 USPQ at 676-77 (invention ineligible because had "no substantial practical application").

Claimed invention (Claims 9-16 and 19-22) recites one or more computer-readable media that is defined in the Applicant's specification broader to read on communications media stored instructions in a modulated data signal. The modulated data signal refers to a propagated signal

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and a carrier wave (Page 6, paragraphs [0020] and [0022]). Data signal is not a process, machine, manufacture, nor composition of matter, thus is a non-statutory subject matter. Applicant amends “one or more computer-readable media” to “one or more **tangible** computer-readable media”. However, “one or more tangible computer-readable media” is not enough to make the claim statutory. The Applicant is respectfully suggested to change the limitation of “one or more tangible computer-readable media” into “one or more computer-readable storage media”.

Claimed invention (Claims 17-23) recites “A system for preventing duplicate resource-index assignments in a communications networking environment”, the system comprising an index-based-resource manager, a data store and a user interface which do not provide useful and tangible results as to whether their execution accomplishes a practical application. The index-based-resource manager, the data store and the user interface are constructed without practical application. Moreover, the system comprises a data store without satisfying the useful result aspect of the practical application requirement because what part of the method of preventing duplicate resource-index assignments a data store contributed. The data store is recited without its utility.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 10, 17 and 23 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 10, the claim is incomplete because there are no given steps to arrive the method of managing the allocation of resource indexes. The claim is missing steps to describe how the allocation of resource indexes is managed. For example, the claim recites “receiving one or more requests to identify one ore more indexes available for allocation...denoting the identified indexes as unavailable for subsequent allocation”. However, the claim does not recit how to manage the allocation of resource indexes.

Regarding claim 17, the claim recites a system for preventing duplicate resource-index assignment, the system comprising an IBRM, a data store and a user interface. The claim also recites “none of said one ore more network resources is associated with a duplicate index”. However, the claim does not describe how an IBRM, a data store and a user interface is applied to prevent duplicate resource-index assignments.

Regarding claim 23, the claim provides for the use of a method for uniquely allocating indexes to resources, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

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Claim 23 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-4, 8-11 and 17-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Teig (US 2003/0154210).

Regarding claim 1, Teig discloses a method for assigning indexes to one or more index-based resources (See page 8, paragraphs [0112-0115], page 10, paragraphs [0128], [0133], [0136-0139], [0141]) the method comprising:

- providing an index-based-resource manager (IBRM) (“index manager 720”, Fig. 7, and page 10, paragraphs [0140-0141]);
- providing a request for one or more indexes to be assigned to respective one or more resources (See page 8, paragraph [0113], “the query manager initially passes ...the received set of input functions to the indexer 515. This indexer translates

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each of the functions into an integer index into the database tables 525”, and page 10, paragraph [0128], “the query manager uses a function T to specify the number of times that it should try to obtain sets of indices from the indexer”);

- directing said request to said IBRM (See page 8, paragraph [0113], wherein the request is passed to the indexer 515 which comprising index manager 720);
- said IBRM identifying one or more indexes available to be allocated (See page 8, paragraph [0114], “the indexer 515 generates a set of one or more indices I from the set of one ore more functions F...identifies a set of one ore more sub-networks that realized the function of the query”, and paragraph [0141], “index manager 720...identify the index for the function of a single-function query...generate multiple indices for a multi-function query”);
- said IBRM preventing said identified one or more indexes from being modified (See page 9, paragraph [0115], “the database tables use a relational data base scheme to store all sub-networks together with their associated indices...the sub-networks are stored in these table in an *encoded* form”, and page 15, paragraph [0193]); and
- said IBRM uniquely assigning said one ore more indexes to said one or more resources (See page 10, paragraph [0138], “the generated set of indices can then be used to search the network database (like an ordinary relational database) for all entries (i.e., all sub-networks) that are associated (i.e., related) with each index in the generated set”, and paragraph [0139], “the generated set of indices is used

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to store the generated sub-networks during pre-tabulation and is used to retrieve pre-tabulated sub-networks during optimization”).

Regarding claim 2, Teig discloses wherein said one or more indexes are identifiers associated with said respective one or more resources (See Figs 15 and 16).

Regarding claim 3, Teig discloses wherein said one or more resources are network components of a computer network, including a communications network (See page 14, paragraph [0186], “sub-networks”).

Regarding claim 4, Teig discloses wherein said network components include one or more selections from the following:

a database table (See page 8, paragraph [0112], “sub-networks...are stored in the database table 525),

a data-routing component;

a switching component; and/or a signal-transfer component.

Regarding claim 8, Teig further discloses deallocating one or more indexes (See page 9, paragraph [0139], “the generated set of indices is used to store the generated sub-networks during pre-tabulation and is used to retrieve pre-tabulated sub-networks during optimization”).

Regarding claim 9, Teig discloses one or more computer-readable media having computer-useable instructions embodied thereon for performing the method of claim 1 (See page 24, paragraphs [0318-0319]).

Regarding claim 10, Teig discloses one or more computer-readable media having computer-useable instructions embodied thereon for performing a method of managing resource indexes in communications networking environment (See page 24, paragraphs [0318-0319]), the method comprising:

- receiving one or more requests to identify one or more indexes available for allocation wherein said indexes are to be respectively and uniquely associated with one or more network resources (See page 8, paragraph [0113], “the query manager initially passes ...the received set of input functions to the indexer 515. This indexer translates each of the functions into an integer index into the database tables 525”, and page page 10, paragraph [0128], “the query manager uses a function T to specify the number of times that it should try to obtain sets of indices from the indexer”);
- querying a data-storage component to identify a set of available indexes consistent with said request(s) (See page 10, paragraph [0138], “this indexer coverts each function in the received query to an integer index into the database tables 525. The generated set of indices can then be used to search the network database (like an ordinary relational database) for all entries (i.e., all sub-networks) that are associated (i.e., related) with each index in the generated set”,

and paragraph [0139], “the generated set of indices is used to store the generated sub-networks during pre-tabulation and is used to retrieve pre-tabulated sub-networks during optimization”);

- denoting the identified indexes as unavailable for subsequent allocation (See page 10, paragraphs [0128] and [0133]); and
- communicating said identified indexes and the data related to said indexes to a requesting component (See page 12, paragraph [0169], “the index manager 720 then returns the generated set of indices to the query manager 505”).

Regarding claim 11, Teig discloses wherein said network resources include one or more selections from the following:

- a network element; including a switch, a router, a signal-transfer point (Figs. 3 and 4), a computer-processing component, or an office facility;

a database table (See page 8, paragraph [0112], “sub-networks...are stored in the database table 525); and/or

- a call-routing path.

Regarding claim 17, Teig discloses a system for preventing duplicate resource-index assignments in a communications networking environment, the system comprising:

- an index-based-resource manager (IBRM) (“index manager 720”, Fig. 7, and page 10, paragraphs [0140-0141]) for receiving requests to manipulate indexes

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associated with one or more network resources such that none of said one or more network resources is associated with a duplicate index;

- a data store coupled to said IBRM (network data storage 105, Fig. 1);
- a user interface coupled to said IBRM for communicating index data associated with manipulating said indexes (“input devices 2630, fig. 26 and paragraph [0320]).

Regarding claim 18, Teig discloses wherein said network resources include one or more selections from the following: a communications pathway, a database component (See page 8, paragraph [0112], “sub-networks...are stored in the database table 525), a hardware element, or a logical data representation (See Figs. 3 and 4).

Regarding claim 19, Teig discloses wherein said IBRM includes a first set of computer-useable instructions embodied on one or more computer-readable media (See page 24, paragraphs [0318-0319]) that:

- performs a query on said data store incident to a request to manipulate one or more of said indexes (See page 10, paragraph [0138], “this indexer coverts each function in the received query to an integer index into the database tables 525. The generated set of indices can then be used to search the network database (like an ordinary relational database) for all entries (i.e., all sub-networks) that are associated (i.e., related) with each index in the generated set”, and paragraph [0139], “the generated set of indices is used to store the generated sub-networks

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during pre-tabulation and is used to retrieve pre-tabulated sub-networks during optimization”);

- identifies a set of indexes consistent with said query (See page 8, paragraph [0114], “the indexer 515 generates a set of one or more indices I from the set of one or more functions F...identifies a set of one or more sub-networks that realized the function of the query”, and paragraph [0141], “index manager 720...identify the index for the function of a single-function query...generate multiple indices for a multi-function query”); and
- communicates an indication of the availability or the lack of availability said identified indexes to a requesting component (See page 12, paragraph [0169], “the index manager 720 then returns the generated set of indices to the query manager 505”).

Regarding claim 20, Teig discloses wherein said IBRM houses said indexes (See Fig. 7).

Regarding claim 21, Teig discloses wherein manipulating said indexes includes allocating indexes to one or more resources (See page 10, paragraph [0138], “the generated set of indices can then be used to search the network database (like an ordinary relational database) for all entries (i.e., all sub-networks) that are associated (i.e., related) with each index in the generated set”, and paragraph [0139], “the generated set of indices is used to store the generated sub-networks during pre-tabulation and is used to retrieve pre-tabulated sub-networks during optimization”).

Regarding claim 22, Teig discloses wherein manipulating said indexes includes deallocating indexes to one or more resources (See page 9, paragraph [0139], “the generated set of indices is used to store the generated sub-networks during pre-tabulation and is used to retrieve pre-tabulated sub-networks during optimization”).

Regarding claim 23, Teig discloses a method for allocating indexes to resources, comprising employing the system of claim 17 (See page 8, paragraphs [0112-0115], page 10, paragraphs [0128], [0133], [0136-0139], [0141]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teig (US 2003/0154210), in view of Gruber (US 6,115,793).

Regarding claim 5, Teig discloses wherein identifying one or more indexes includes querying a data storage device that houses resource information related to said one or more resources (See page 8, paragraph [0105], “the network database 105...stores each sub-network

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completely along with full information about the logic function or functions performed by the sub-network” and paragraph [0114], “the indexer 515 generates a set of one or more indices I from the set of one or more functions F...identifies a set of one or more sub-networks that realized the function of the query”).

Teig is silent as to teach wherein said resource information includes an indication as to whether an available index is currently in use. On the other hand, Gruber teaches resource information includes an indication as to whether an available index is currently in use (Fig. 5c and col. 5, line 58 to col. 6, line 39 and col. 10, lines 10-22, Gruber et al.). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to include an indication as to whether an available index is currently in use into the system of Teig. The ordinarily skilled artisan would have been motivated to modify Teig per the above for the purpose of improving memory-access performance while still retaining the efficiencies provided that the prior allocations are maintained until no longer needed (See col. 6, lines 48-52, Gruber et al.).

Regarding claim 6, Teig/Gruber discloses wherein identifying one or more indexes comprises beginning a search for said one or more indexes from a predetermined index location (See col. 5, line 58 to col. 6, line 10, Gruber et al.).

Regarding claim 7, Teig/Gruber discloses wherein identifying one or more indexes comprises selecting said one or more indexes from a predetermined range of indexes (See col. 4, lines 41-64, Gruber et al.).

Allowable Subject Matter

6. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if all the 112 rejections are overcome.

Claims 13-16 are depend on claim 12 thus are objected as the same.

Response to Arguments

7. Applicant's arguments filed on 10/24/2006 about the claim rejection of the last Office Action have been fully considered, but they are not persuasive.

The Applicant states "rather than merely searching, the IBRM determines what is and is not available for future queries by updating the status of one or more indexes once assigned to a network resource". The Examiner respectfully points out that this limitation is not claimed.

The Applicant argues "the IBRM preventing the identified indexes from being modified so that the final step of the IBRM assigning the resources can take place. The invention of Teig refers to the these sub-networks as "stored in these tables in an encoded form," which infers the inability to modify the sub- networks and indexes prior to the indexer locating that set of one or more sub-networks. See Office Action of 07/25/06, p. 6. This is distinguishable from the present invention, which by its very nature is dealing with indexes and tables of a dynamic nature. Embodiments of the present invention prevent the modification of the data associated with the selected index or indexes while it has been assigned or allocated". The Examiner respectfully disagrees. Page 9, paragraph [0115] recites, "the database tables use a relational data base scheme to store all sub-networks together with their associated indices...the sub-networks are

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stored in these table in an *encoded* form” which teaches the claimed preventing said identified one or more indexes from being modified by encoding sub-networks and their associated indices. Also, Applicant recites “Embodiments of the present invention prevent the modification of the data associated with the selected index or indexes while it has been assigned or allocated” which is not claimed language.

In response to applicant's argument, to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

8. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marilyn P Nguyen whose telephone number is 571-272-4026.

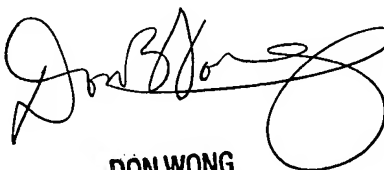
The examiner can normally be reached on M-F: 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.


MN

January 04, 2007


DON WONG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100